

WHAT IS CLAIMED IS:

1. An interface converter connected to a device having an interface, the interface converter comprising:

5 a first command converter for converting a command between one complying with a first interface standard and one complying with a second interface standard;

a second command converter for converting a command between one complying with the first interface standard and  
10 one complying with a third interface standard; and

a switching controller for checking whether the interface of the device complies with the second interface or the third interface and selects the first command converter or the second command converter in accordance with  
15 the checking result.

2. The interface converter according to claim 1, wherein the switching controller issues a command to the device and checks whether the interface of the device  
20 complies with the second interface or the third interface based on status information generated by the device in response to the command.

3. The interface converter according to claim 1, wherein the interface converter is connectable to another device having an interface complying with the first interface standard, at least one of the first and second command converters includes a determination circuit for determining whether to convert a command complying with the  
25 first interface standard to a command complying with the second interface standard or the third interface standard, the at least one of the first and second command converters generating an error status signal when not converting the  
30

command, and the interface converter providing the error status signal to said another device.

4. The interface converter according to claim 1,  
5 wherein at least one of the first and second command converters uses a table storing commands associated with the first, second, and third interface standards to convert a command.

10 5. The interface converter according to claim 1, further comprising:

a first status converter for converting a status between one complying with the first interface standard and one complying with the second interface; and

15 a second status converter for converting a status between one complying with the first interface standard and one complying with the third interface standard, and wherein the switching controller selects the first status converter or the second status converter in accordance with the  
20 checking result.

6. The interface converter according to claim 1, further comprising;

a first data converter for converting a datum between  
25 one complying with the first interface standard and one complying with the second interface standard; and

a second data converter for converting a datum between one complying with the first interface standard and one complying with the third interface standard, and wherein the  
30 switching controller selects the first data converter or the second data converter in accordance with the checking result.

7. The interface converter according to claim 6, wherein at least one of the first and second data converters encodes or decodes input data to convert data.

5 8. The interface converter according to claim 6, wherein at least one of the first and second data converters generates converted data to which an error correction code is added.

10 9. The interface converter according to claim 6, wherein at least one of the first and second data converters determines whether input data includes a predetermined data pattern and stops outputting the input data when the predetermined data pattern is included.

15 10. A method for converting a command between one complying with a first interface standard and one complying with a second or third interface standard for communication with a device through an interface thereof, the method comprising:

20 connecting the interface of the device to an interface converter having first and second command converters, which convert commands from compliance with the first interface standard to compliance with the second or third interface standard, respectively;

25 checking whether the interface of the device connected to the interface converter complies with the second interface standard or the third interface standard; and

30 selecting the first command converter or the second command converter in accordance with the result of said checking.

11. The method according to claim 10, wherein said

checking includes:

sequentially issuing to the device a first command complying with the second interface standard and a second command complying with the third interface standard;

5       referring to status information of the device for at least one of the first and second commands; and

checking the type of the interface of the device in accordance with the result of said referring.

10       12. The method according to claim 10, further comprising:

determining whether to convert a command complying with the first interface standard to a command complying with the second or third interface standard; and

15       generating an error status signal when the command is not converted.

13. An interface converter for functionally connecting a first device having an interface complying with a first  
20 interface standard and a second device having an interface complying with a second interface standard or a third interface standard, the interface converter comprising:

a first command converter for converting a command between one complying with the first interface standard and  
25 one complying with the second interface standard;

a second command converter for converting a command between one complying with the first interface standard and one complying with the third interface standard; and

a switching controller for checking whether the  
30 interface of the second device complies with the second interface or the third interface and activating the first command converter or the second command converter in accordance with the checking result.

14. The interface converter according to claim 13,  
further comprising:

5 a first data converter for converting a datum between  
one complying with the first interface standard and one  
complying with the second interface standard; and

a second data converter for converting a datum between  
one complying with the first interface standard and one  
complying with the third interface standard, and wherein the  
10 switching controller activates the first data converter or  
the second data converter in accordance with the checking  
result.

15 15. The interface converter according to claim 14,  
wherein the first and second data converters each include an  
encoder for encoding converted data and a decoder for  
decoding converted data.

16. A method for functionally connecting a first  
20 device having an interface complying with a first interface  
standard and a second device having an interface complying  
with a second interface standard or a third interface  
standard, the method comprising:

providing first and second command converters, which  
25 convert a command between one complying with the first  
interface standard and one complying with the second or  
third interface standard, respectively;

checking whether the interface of the second device  
complies with the second interface standard or the third  
30 interface standard; and

activating the first command converter or the second  
command converter in accordance with the result of said  
checking.

17. The method according to claim 16, wherein said checking includes:

5 sequentially issuing to the second device a first identify device command complying with the second interface standard and a second identify device command complying with the third interface standard;

referring to status information of the second device for at least one of the first and second identify device  
10 commands; and

checking the type of the interface of the second device in accordance with the result of said referring.